specialized protocols of networks, such as the Internet and particularly wireless environments, without requiring significant modification of the applications themselves.

Summary of the Invention

An embodiment of the invention is a wireless communications network. The network includes a wireless communications channel, a wireless application service provider (ASP) server computer communicatively connected to the wireless communications channel, and a client device communicatively connected via the wireless channel to the wireless ASP server computer. The wireless ASP server computer communicates with the client device over the wireless communications channel by a specialized protocol. In certain embodiments, a hooking layer of the client device translates the specialized protocol to a standard protocol for use by standard applications programs of the client device.

Another embodiment of the invention is a method of wireless communications. A client device communicates wirelessly with a wireless application service provider (ASP) server computer. The client device runs standard programs. The method includes serving a first information by the wireless ASP server computer to the client device according to a specialized protocol, determining that the first information accords with the specialized protocol, and proxying the first information to the standard programs in a standard protocol readable by the standard programs.

Brief Description of the Drawings

The present invention is illustrated by way of example and not limitation in the accompanying figures, in which like references indicate similar elements, and in which:

FIG. 1 illustrates a network, for example, the Internet, including a wireless communications portion and a wireless application service provider (ASP) system including a wireless ASP server computer in wireless communications with a wireless device;

FIG. 2 illustrates a hooking layer for intercepting standardized format communications and serving as an invisible proxy to specialized format communications, according to embodiments of the present invention; and

FIG. 3 illustrates a method of operation of the hooking layer of FIG. 2, according to embodiments of the present invention.

Detailed Description of Preferred Embodiments

Network with Wireless ASP System

Referring to FIG. 1, a communications system 100 includes a wireless communications portion and a wired communications portion. The system 100 includes a network, such as the Internet 102. The network is operable according to a particular packetized data protocol, such as transport control protocol/Internet protocol (TCP/IP) or some other network protocol. The network, such as the Internet 102, interconnects various computing and communications devices, for example, among other devices, a server computer 104 and a wireless ASP server computer 106. The server computer 104 and the wireless ASP server computer 16 are each one or more server computers including a microprocessor, memory storage, and communications capabilities via wire or wireless connection with the Internet 102. The server computer 104 and the wireless ASP server computer 106 communicate over the Internet 102 or other network via the particular protocol of the network, such as the standard Internet network protocol TCP/IP.

The network, such as the Internet 102, is also connected with a wireless communications service provider 108. The wireless communications service provider 108 is, for example, a cellular or other packetized data wireless communications network. The wireless service provider 108 connects by wire connection with the network, such as the Internet 102. Alternatively, the wireless communications service provider 108 could connect with the network 102 by other communications connection, such as fiber optic, coax cable, wireless channel, or other communications connection. Furthermore, although the wireless communications service provider 108 is illustrated as a single particular communications channel, multiple links and multiple channels of those links, for example, communications links of wired and wireless channels, can alternatively provide the same functions and are included for purposes of the description.

The wireless service provider 108 is capable of communicating through wireless channels with various devices, such as a wireless device 200. The wireless device 200 is a processing device, such as a data-enabled cellular telephone, a personal digital assistant, a laptop computer, or any of a wide variety of other processing devices that can wirelessly communicate with the wireless service provider 108. Of course, the wireless device 200 includes communications equipment for accomplishing the wireless communication with the wireless service provider 108, such as wireless modem.

The wireless device 200 communicates through the wireless service provider 108 and over the network, such as the Internet 102, with the wireless ASP server computer 106. The wireless ASP server computer 106 serves as a dedicated server for the wireless device 200 in its communications. The wireless ASP server computer 106 sends and receives communications to and from the wireless device 200 over the network, such as